

REMARKS/ARGUMENTS

Claims 1, 2, 4, 5, 7, 10 – 12, 14 – 18, 20 – 22, and 24 – 29 were pending in the present application when last examined. Applicant proposes amending claims 1, 4, 10, 12, 14, 16, 17, 20, 24 – 29. Applicant respectfully requests that the amendments be entered to move the case to allowance or to put the claims in better condition for appeal.

§ 103 Rejections

Claim 1

Applicant proposes amending claim 1 to particularly point out that the active surface of the captive disc has a “predetermined pattern” and to particularly point out that the sensor takes successive images “of the predetermined pattern” and to particularly point out that it is the successive images “of the predetermined pattern” that are compared to determine movement. Support for the amendment is found, for example, at paragraph [0033] and Fig. 2D of Applicant’s specification. As amended, claim 1 recites:

“An input device comprising:
a captive disc movably suspended over a sensor, said captive disc having an active surface facing said sensor, ***the active surface having a predetermined pattern;***
wherein said sensor is adapted to take successive images ***of the predetermined pattern*** of the active surface of said captive disc and compare the successive images ***of the predetermined pattern*** to determine movement of said captive disc;
a horizontal spring allowing resistive movement of said captive disc in horizontal directions; and
a vertical spring allowing resistive movement of said captive disc in vertical directions.” (emphasis added)

Claim 1, as previously presented, was rejected action under 35 U.S.C. § 103(a) as being unpatentable over Kobachi et al. (U.S. Patent No. 6,326,948, hereinafter “Kobachi”) in view of Gordon et al. (U.S. Patent No. 6,057,540, hereinafter “Gordon”). Applicant asserts that claim 1 as amended is not rendered obvious from Kobachi in view of Gordon because the combination of the prior art references does not teach or suggest: 1) an active surface having a predetermined pattern, or 2) a sensor that is adapted to take successive images of the predetermined pattern and to compare the successive images to determine movement.

The prior art references do not teach or suggest an active surface having a predetermined pattern

Kobachi teaches that the reflective plate (3) creates a reflective pattern that is representative of the shape of the reflective plate, e.g., a circular reflective plate will create a circular reflection pattern and a square reflective plate will create a square reflection pattern. (see col. 9, lines 56 – 58) However, Applicant asserts that Kobachi does not teach or suggest a “predetermined pattern” on the surface of the reflective plate.

Gordon does not teach or suggest a captive disc and therefore does not teach or suggest a disc having a surface with a predetermined pattern.

The prior art references do not teach or suggest a sensor that is adapted to take successive images of the predetermined pattern and to compare the successive images to determine movement

Kobachi teaches simultaneously collecting current values from four photodiodes, PD1 – PD4, and comparing the simultaneously collected current values with each other to determine movement. (see col. 9, lines 21 – 30) Nowhere does Kobachi teach or suggest taking successive images “*of the predetermined pattern*” and comparing the successive images “*of the predetermined pattern*” to determine movement.

Gordon teaches collecting images of the surface of a finger not the surface of a captive disc. The surface of a finger, as taught by Gordon, is dependent on the particular finger and varies with each different finger that is imaged. In contrast, claim 1 recites that the active surface has a “*predetermined pattern*.” A predetermined pattern is not dependent upon the finger that is used to manipulate the input device.

Because the combination of the prior art references does not teach or suggest an active surface having a predetermined pattern or a sensor that is adapted to take successive images of the predetermined pattern and to compare the successive images to determine movement, Applicant asserts that claim 1 is not rendered obvious from Kobachi in view of Gordon.

Dependent Claims 2, 4, 5, 7, 10, 11, 24, and 25

Claims 2, 4, 5, 7, 10, 11, 24, and 25 depend from amended claim 1 and are patentable for at least the same reasons as amended claim 1.

Independent Claims 12 and 17

Applicant has amended independent claims 12 and 17 with similar limitations as amended claim 1. Accordingly, amended claims 12 and 17 are patentable for at least the same reasons as amended claim 1.

Dependent Claims 14 – 16, 18, 20 – 22, 26 – 29

Claims 14 – 16, 26, and 27 depend from amended claim 12 and claims 18, 20 – 22, 28, and 29 depend from amended claim 17. Applicant asserts that these claims are patentable for at least the same reasons as amended claims 12 and 17.

Claim 25

Applicant proposes amending claim 25 to particularly point out that the navigation and border areas have patterns and to particularly point out that “the pattern” of the border area has a lower density than “the pattern” of the navigation area. Support for the proposed amendment is found, for example, at paragraphs [0033] and [0034] and Fig. 4. As amended, claim 25 recites:

“The device recited in claim 24 wherein
said active surface comprises a navigation area having *a first pattern* and a
border area having *a second pattern* generally surrounding said navigation area;
and
the pattern of the border area *has a lower density than the pattern* of the
navigation area so the border area becomes out of focus for the sensor faster than
the navigation area when said captive disc moves from the focal plane to the rest
plane.” (emphasis added)

Claim 25, as previously presented, was rejected under 35 U.S.C. § 103(a) as being unpatentable over Kobachi in view of Gordon. Applicant asserts that claim 25 as amended is not rendered obvious from Kobachi in view of Gordon because the combination of the prior art references does not teach or suggest a border area pattern having “*a lower density*” than a navigation area pattern.

Applicants assert that the prior art does not teach or suggest an active surface that has two different pattern densities. Kobachi teaches that the shape of the reflective plate can be, for example, a circle or a square. However, Kobachi does not teach or suggest a reflective plate with

a navigation area and a boarder area, where the navigation and boarder areas have two different patterns. Further, Kobachi does not teach that a boarder area pattern has a lower density than a navigation area pattern. In fact, neither Kobachi nor Gordon addresses pattern density. Further, neither Kobachi nor Gordon teach that boarder area pattern density has an effect on how fast a boarder area becomes out of focus relative to a navigation area.

Because the combination of the prior art references does not teach or suggest a boarder area pattern having “*a lower density*” than a navigation area pattern, Applicant asserts that claim 25 is not rendered obvious from Kobachi in view of Gordon.

Claims 27 and 29

Applicant has amended claims 27 and 29 with similar limitations as amended claim 25. Accordingly, amended claims 27 and 29 are patentable for at least the same reasons as amended claim 25.

Claim Objections

Claims 4, 10, 12, 14, 16, 20, and 24 – 29 have been amended to change the word “disk” to “disc.”

For the above reasons, Applicant respectfully requests the Examiner to withdraw the claim rejections and allow claims 1, 2, 4, 5, 7, 10 – 12, 14 – 18, 20 – 22, and 24 – 29. Should the Examiner have any questions, please call the undersigned at (925) 249-1300.

Respectfully submitted,



Mark A. Wilson April 19, 2007
Attorney for Applicant(s)
Reg. No. 43,994

Wilson & Ham
PMB: 348, 2530 Berryessa Road
Pleasanton, California 94566
925-249-1300